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EXAMINER	
YOUNG, JANELLE N	

ART UNIT	PAPER NUMBER
2618	

DATE MAILED: 10/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/796,651	MICHEL, CYRIL	
	Examiner	Art Unit	
	Janelle N. Young	2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 March 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *08 March 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1, 3, 10-11, and 14-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Engelbrecht et al. (US Patent 5912917).

As for claim 1, Engelbrecht et al. teaches a method of transmitting or broadcasting information in digital form from a satellite to terrestrial receivers in the presence of a terrestrial network effecting links each occupying a specific and narrow frequency sub-band of an extended band, the sub-bands being assigned to different terrestrial zones within which the links are effected (Col. 1, lines 11-46 and Col. 2, line 57-Col. 3, line 24 of Engelbrecht et al.), according to which:

> the information is put into the form of digital symbols, and the digital symbols are distributed over several carriers belonging to a group of carriers that are distributed within the whole of a channel covering at least four of said frequency sub-bands, employing spread spectrum (Col. 4, lines 16-50 of Engelbrecht et al.).

As for claim 3, Engelbrecht et al. teaches a method of transmitting or broadcasting information in digital form from a satellite to terrestrial receivers in the presence of a terrestrial network effecting links each occupying a specific and narrow frequency sub-band of an extended band, the sub-bands being assigned to different terrestrial zones within which the links are effected, characterized in that the spread frequencies of one and the same program are distributed over at least the totality of one of the bands assigned to the terrestrial communications in the region where the transmission or broadcast from the satellite is effected (Col. 9, line 56-Col. 10, line 23; Col. 11, line 58-Col. 12, line 8; and Col. 12, lines 18-35 of Engelbrecht et al.).

Regarding claim 10, see explanation as set forth regarding claims 1 (method claim) because the claimed system for transmitting or broadcasting information programs in digital form on the downlink from a satellite to one or more terrestrial receivers would perform the method steps.

Regarding claim 11, see explanation as set forth regarding claims 3 (method claim) because the claimed system for transmitting or broadcasting information programs in digital form on the downlink from a satellite to one or more terrestrial receivers would perform the method steps.

Regarding claim 14, see explanation as set forth regarding claims 1 (method claim) because the claimed a transmitter carried by a satellite or transmitting from the earth to a satellite having a transparent payload for broadcasting to earth would perform the method steps.

Regarding claim 15, see explanation as set forth regarding claims 1 (method claim) because the claimed a reception terminal for transmitting or broadcasting information in digital form from a satellite to terrestrial receivers in the presence of a terrestrial network effecting links would perform the method steps.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 2 and 4-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Engelbrecht et al. (US Patent 5912917)as applied to claim 1 above, and further in view of Midgley et al. (US Patent 3679980).

As for claim 2, Engelbrecht et al. teaches a method of transmitting or broadcasting information in digital form from a satellite to terrestrial receivers in the presence of a terrestrial network effecting links each occupying a specific and narrow frequency sub-band of an extended band, the sub-bands being assigned to different terrestrial zones within which the links are effected (Col. 1, lines 11-46; Col. 2, line 57-Col. 3, line 24; Col. 5, lines 20-41; and Col. 11, line 34-Col. 12, line 35 of Engelbrecht et al.).

What Engelbrecht et al. does not explicitly teach is the broadcasting a television program characterized in that the channel exhibits a width.

However, Midgley et al. teaches a width of 170 MHz for a satellite link in the 620-790 MHz band and a width of 392 MHz for a satellite link in the 470-862 MHz band (Col. 1, lines 6-24 & 43-55 and Col. 3, lines 37-50 of Midgley et al.).

It would have been obvious to one of ordinary skill of the art at the time the invention was made to incorporate the channel exhibits a width, as taught by Midgley et al., in the a method of transmitting or broadcasting information in digital form from a satellite to terrestrial receivers of Engelbrecht et al., because Engelbrecht et al. already teaches broadcasting a plurality of channels of digitized program data in a spread spectrum (Abstract of Engelbrecht et al.). the limit of the frequency range of television and advanced television (ATV) broadcast are 54 MHz-88 MHz, 174 MHz-216 MHz, and 470 MHz-890 MHz.

The motivation of this combination would be the effect of the distributed transmission system selected of a digital broadcast system, as taught by Engelbrecht et al. in Abstract, because it would permit a flexible simultaneous use of the band by DAB of the system.. Actuation of a channel selector mechanism to one of a plurality of channel selection settings connects a distinctive level of voltage to a wide band signal selecting circuit. The frequency range for the television broadcasting has been determined such that the Band I covers 47 MHz to 68 MHz, the Band III covers 174 MHz to 230 MHz and the Band IV and V cover 470 MHz to 790 MHz. (Col. 1, lines 41-54 of Midgley et al.). In the VHF tuner 10, the channels are arranged in a low frequency

band (channels 2-6) and a high frequency band (channels 7-13). The VHF tuner incorporates a resonant circuit having parallel inductances arranged so that a permanent inductance is operative to determine the low frequency band. A shunt high frequency inductance is switched into operation to act in conjunction with the permanent inductance in determining the high frequency band. In the UHF tuner 15, the channels are arranged in an ultra high frequency band (channels 14-83). The incorporation of the channel exhibits a width with the a method of transmitting or broadcasting information in digital form from a satellite to terrestrial receivers would make the connection for effecting fine tuning of the channel better, because the different voltage level is connected for each of the channel selection settings and each is independently controllable through actuation of preset tuning mechanism only (Col. 5, lines 11-22 of Midgley et al.).

As for claim 5, Engelbrecht et al. teaches a method of transmitting or broadcasting information in digital form from a satellite to terrestrial receivers in the presence of a terrestrial network effecting links each occupying a specific and narrow frequency sub-band of an extended band, the sub-bands being assigned to different terrestrial zones within which the links are effected, characterized in that the spreading of each elementary carrier is performed by direct sequence, with a spacing between carriers that is sufficient to avoid their overlapping (Col. 3, lines 38-58 and Col. 13, lines 6-27 of Engelbrecht et al.).

As for claim 6, Engelbrecht et al. teaches a method of transmitting or broadcasting information in digital form from a satellite to terrestrial receivers in the

presence of a terrestrial network effecting links each occupying a specific and narrow frequency sub-band of an extended band, the sub-bands being assigned to different terrestrial zones within which the links are effected, characterized in that the spreading of each carrier is performed by multiplication by a common sequence, possibly with identification of the sequence on receipt by knowledge of an encryption key (Col. 2, line 61-Col. 3, line 24 of Engelbrecht et al.).

As for claim 7, Engelbrecht et al. teaches a method of transmitting or broadcasting information in digital form from a satellite to terrestrial receivers in the presence of a terrestrial network effecting links each occupying a specific and narrow frequency sub-band of an extended band, the sub-bands being assigned to different terrestrial zones within which the links are effected, characterized in that the spreading of each carrier is performed by multiplying the I and Q pathways by different sequences (Col. 4, lines 16-50 and Col. 9, lines 1-17 of Engelbrecht et al.).

As for claim 8, Engelbrecht et al. teaches a method of transmitting or broadcasting information in digital form from a satellite to terrestrial receivers in the presence of a terrestrial network effecting links each occupying a specific and narrow frequency sub-band of an extended band, the sub-bands being assigned to different terrestrial zones within which the links are effected, characterized in that the spreading is performed by a frequency interleaving (Col. 3, line 60-Col. 4, line 14 of Engelbrecht et al.).

3. Claims 4 and 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Engelbrecht et al. (US Patent 5912917) as applied to claim 1 above, and further in view of Auranen (US Patent 2003/0012305).

As for claim 4, Engelbrecht et al. teaches a method of transmitting or broadcasting information in digital form from a satellite to terrestrial receivers in the presence of a terrestrial network effecting links each occupying a specific and narrow frequency sub-band of an extended band, the sub-bands being assigned to different terrestrial zones within which the links are effected (Col. 1, lines 11-46; Col. 2, line 57-Col. 3, line 24; Col. 5, lines 20-41; and Col. 11, line 34-Col. 12, line 35 of Engelbrecht et al.).

What Engelbrecht et al. does not explicitly teach is broadcasting information characterized in that the spread spectrum is effected by implementing an OFDM or COFDM waveform shaping.

However, Auranen teaches broadcasting information characterized in that the spread spectrum is effected by implementing an OFDM or COFDM waveform shaping (Page 1, Para 0004 & 0008; Page 3, Para 0057-0058; Page 4, Para 0060-0063, 0066, 0069, 0071, & 0073; Page 5, Para 0077-0080; Page 6, Para 0094; and Page 7, Para 0097 of Auranen).

It would have been obvious to one of ordinary skill of the art at the time the invention was made to incorporate the adjustment of a receiver's IQ-imbalance in a digital broadcasting system, as taught by Auranen, in the a method of transmitting or broadcasting information in digital form from a satellite to terrestrial receivers of

Engelbrecht et al., because Engelbrecht et al. already teaches a path being identified as the I (in-phase) channel and the other as the Q (quadrature) channel (Col. 4, lines 15-50 of Engelbrecht et al.).

The motivation of this combination would be the effect of the bandwidth efficiency and power efficiency, as taught by Engelbrecht et al. in Col. 6, line 51-Col. 7, line 5, because it allow the better information transferring. Actuation of a channel selector mechanism to one of a plurality of channel selection settings connects a distinctive level of voltage to a wide band signal selecting circuit. The IQ-imbalance is corrected, based on the analysis, in the analogue domain. By having phase balance, the payload is transparent, but can be controlled through the evaluation of the phase. The incorporation of the adjustment of a receiver's IQ-imbalance in a digital broadcasting system with the a method of transmitting or broadcasting information in digital form from a satellite to terrestrial receivers would make it easier and cheaper to manufacture a phase shifter that would perform a stable 90 degrees phase difference for the I- and Q-branches in the whole region of the used frequency band, especially when taking into consideration the small size requirement of the wireless mobile communication devices.

As for claims 12-13, Engelbrecht et al. teaches a system for transmitting or broadcasting information programs in digital form on the downlink from a satellite to one or more terrestrial receivers, according to which said means belong to the payload of the satellite and said satellite receives the programs through an uplink on a single carrier and/or are incorporated into a terrestrial station for transmitting on an uplink to the satellite and the payload of said satellite is transparent **[Note**: By having phase

balance, the payload is transparent, but can be controlled through the evaluation of the phase.] (Pages 1-2, Para 0012-0016; Page 2, Para 0022-0023, 0028-0029, & 0034-0040; and Page 5, Para 0080 of Auranen).

4. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Engelbrecht et al. (US Patent 5912917) as applied to claim 1 above, and further in view of Kumar (US Patent 5825807).

As for claim 9, Engelbrecht et al. teaches a method of transmitting or broadcasting information in digital form from a satellite to terrestrial receivers in the presence of a terrestrial network effecting links each occupying a specific and narrow frequency sub-band of an extended band, the sub-bands being assigned to different terrestrial zones within which the links are effected (Col. 1, lines 11-46; Col. 2, line 57-Col. 3, line 24; Col. 5, lines 20-41; and Col. 11, line 34-Col. 12, line 35 of Engelbrecht et al.).

What Engelbrecht et al. does not explicitly teach is the simultaneous broadcasting and/or transmitting of several programs.

However, Kumar teaches the simultaneous broadcasting of several programs, according to which the modulation step comprises as many serial/parallel conversions (Col. 7, line 57-Col. 8, line 4; Col. 9, lines 32-47; and Col. 12, line 61-Col. 13, line 37 of Kumar), separate modulations (Col. 3, lines 6-14 and Col. 20, lines 23-52 of Kumar), inverse Fourier transformations (Col. 7, line 57-Col. 8, line 4 and Col. 9, lines 48-51of Kumar), digital/analog conversions and change of frequency and transmission as there

are programs (Col. 8, line 21-Col. 9, line 3 of Kumar), the center frequency of all the carriers and the spreadings (Col. 2, lines 30-38 and Col. 3, lines 24-39 of Kumar) being handled by a common processor (Fig 9 & 12; Col. 4, lines 3-27; Col. 17, lines 29-53; Col. 20, line 23-Col. 21, line 9; and Col. 26, line 48-Col. 27, line 7 of Kumar).

It would have been obvious to one of ordinary skill of the art at the time the invention was made to incorporate the multiplexing of a spread spectrum communication system, as taught by Kumar, in the a method of transmitting or broadcasting information in digital form from a satellite to terrestrial receivers of Engelbrecht et al., because Engelbrecht et al. already teaches broadcasting a plurality of channels of digitized program data in a spread spectrum, time and frequency hopping waveform to remote mobile and stationary receivers. (Abstract of Engelbrecht et al.).

The motivation of this combination would be the effect of the bandwidth efficiency and power efficiency, as taught by Engelbrecht et al. in Col. 6, line 51-Col. 7, line 5, because it would overcome interference on a particular channel. The incorporation of the multiplexing of a spread spectrum communication system with the a method of transmitting or broadcasting information in digital form from a satellite to terrestrial receivers would provide a synchronous transmission and reception of multiplexed digital signals and would also be effective against many forms of frequency selective interference.

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Janelle N. Young whose telephone number is (571) 272-2836. The examiner can normally be reached on Monday through Friday: 8:30 am through 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay Maung can be reached on (571) 272-7882. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

9/26/06

JNY
September 19, 2006

QUOCHIEN B. VUONG
PRIMARY EXAMINER